

Amendments to the Specification:

Page 8, amend the paragraph beginning at line 16 to read as follows:

With reference to Figure 2, petroleum effluent 10 can be on turbulent flow in a pipe 11. In this case, the composition of the effluent can be homogeneous, i.e. the water, the oil and the gas are distributed uniformly in all of pipe 11. In this case, the method allows one to determine the water, oil and gas content of the effluent.

Page 8, amend the paragraph beginning on line 20 to read as follows:

According to another option diagrammatically shown in Figure 3, the water 20, the oil 22 and the gas 24 can be distributed in form of stratified layers, for example when the effluent is on laminar flow in a pipe 25 or when the effluent settles in a separating drum. More precisely, the effluent comes in form of superposed layers : a water layer 20, a water/oil emulsion layer 21, an oil layer 22, an oil/gas foam layer 23 and a gas layer 24. In this case, the method notably allows one to determine the position of the various layers and to determine the proportions of water and oil forming emulsion layer 21, and the proportions of oil and gas forming foam layer 23. To determine the composition of the emulsion (respectively of the foam), only the microwave beams that have travelled a path located only in emulsion layer 21 (respectively in foam layer 23) are taken into account.